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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,652	07/19/2001	Raymond Yinggang Xie	P-87/SYCS-036	3537
959	7590	10/20/2005	EXAMINER	
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			NGUYEN, QUYNH H	
		ART UNIT	PAPER NUMBER	
		2642		

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/910,652	XIE, RAYMOND YINGGANG	
	<b>Examiner</b>	<b>Art Unit</b>	
	Quynh H. Nguyen	2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 July 2005.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Applicant's amendment filed 7/19/05 has been entered. No claims have been amended. No claims have been cancelled. No claims have been added. Claims 1-21 are still pending in this application, with claims 1 and 6 being independent.

### ***Claim Rejections - 35 USC § 103***

3. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma et al. (U.S. Patent 6,430,150).

Regarding claim 1, Azuma et al. teach the method in a telecommunication network wherein a failure occurs, service is switched to the alternative paths (Abstract), the method including the steps of: determining whether a first connection can be established between the first node and the second node (Fig. 5A, between nodes 5 and 6); if the first connection cannot be established (failure), determining whether a second connection (a path connecting nodes 5, 3, 2, 1) can be established between the first node (node 5) and a third node located after the second node (after the second node or node 6 is node 1) (Fig. 5A and col. 7, lines 20-32). Azuma et al. further teach if the failures keep occurring, process according to the path restoration such that an alternate / path connecting nodes is set in place of the path on the failed link (col. 7, lines 20-32);

consistent computation of alternate paths are obtained at each node and a common computation algorithm for finding alternate paths are used (col. 5, lines 18-30).

Azuma et al. do not suggest if the first and second and third connections cannot be established, determining whether a fourth connection can be established between the fourth node located before the first node along the first connection path and the third node.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that consistently using Azuma's system is a high-speed restoration system such that alternate path adapted quickly for restoring failures and finding the shortest route would expand the establishing connections between node N<sub>k</sub> and N<sub>k+1</sub>. For example, if the first (between node 5 and node 6) and second (between node 5 and node 1) connections cannot be established, determining whether a third connection can be established between a fourth node (node 4) located before the first node along the first connection path and the second node (Fig. 5A, node 6) (4, 3, 2, 6); and if the first connection (between node 5 and node 6) and the second connection (between node 5 and node 1) and the third connection (between node 4 and node 6) cannot be established, determining whether a fourth connection can be established between the fourth node (Fig. 5A, node 4) located before the first node along the first connection path and the third node (Fig. 5A, node 1) (4, 3, 2, 1).

Regarding claim 2, Azuma et al. teach the third node (Fig. 2A, B) is immediately after the first node (Fig. 2A, A) and if the first connection and the second connection cannot be established, the fourth node is immediately before the first node (Fig. 5A).

Regarding claims 3, 5, 7, 9, and 11, Azuma et al. teach attempting to determine non-retracing connections. For example, a path connecting nodes 6, 2, 3, and 5 (Fig. 5A and col. 7, lines 20-32).

Regarding claims 4 and 10, Azuma et al. teach establishing a second connection path including the first connection path (col. 7, line 20-25). However, Azuma et al. do not specifically suggest establishing a second connection path including one of the group of the first connection, the second connection, the third connection and the fourth connection; propagating path information corresponding to the second connection path for a plurality of nodes in the network related to the second connection path. Again, this would have been obviously rejected for the same reasons as discussed above with respect to claim 1.

Claim 6 is rejected for the same reasons as discussed above with respect to claim 1.

Claim 8 is rejected for the same reasons as discussed above with respect to claim 6. Furthermore, Azuma et al. do not explicitly teach if the first connection can be established, restoring the connection C by establishing a connection between the node N<sub>k</sub> and N<sub>k</sub>+1. Obviously, if the first connection can be established from restoring, then establishing a connection between the nodes that are involved previously.

Regarding claims 12-15 and 17-20, Azuma et al. teach a processor, a memory in communication with the processor, a network interface in communication with the processor (Fig. 9 and col. 10, line 54 through col. 11, line 3).

Regarding claims 16 and 21, Azuma et al. the apparatus is provided at each node of the network (Fig. 1A-2A 4A-5B).

### ***Response to Arguments***

4. Applicant's arguments filed 7/19/05 have been fully considered but they are not persuasive.

Applicant argues that Azuma does not teach determining whether a connection between nodes 1 and 5 can be established when the first connection between nodes 5 and 6 cannot be established. Examiner respectfully submits that Azuma teaches a restoration method in a mesh network upon detecting a node failure or a link failure (col. 8, lines 2-10 and lines 48-54). Therefore, on one hand, in case of a node failure, for example node 6, a first connection can not be established between the first node and the second node (Fig. 5A, between nodes 5 and 6); determining whether a second connection (a path connecting nodes 5, 3, 2, 1) can be established between the first node (node 5) and a third node located after the second node (after the second node or node 6 is node 1) (Fig. 5A and col. 7, lines 20-32). Since node 6 fails, a connecting nodes 5, 3, 2, 1 is the only alternate path. On the other hand, in case of link failure (link between nodes 5 and 6), it would have been obvious that one would find the shortest and cheapest route, which is 5, 3, 2, 1 instead of 5, 3, 2, 6, 1. Similarly, the same arguments would apply for establishing the third and forth connections if the second and third connection cannot be established.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh H. Nguyen whose telephone number is 571-272-7489. The examiner can normally be reached on Monday - Thursday from 6:15 A.M. to 4:45 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Quynh H. Nguyen

October 17, 2005



AHMAD F. MATAR  
SUPERVISORY PATENT EXAMINER  
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